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JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **09268245 A**

(43) Date of publication of application: **14.10.97**

(51) Int. Cl.

C08L 27/12

C08J 3/24

C08K 5/54

(21) Application number: **08103315**

(22) Date of filing: **29.03.96**

(71) Applicant: **NICHIAS CORP**

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**(54) FLUORORESIN COMPOSITION, ITS
PRODUCTION AND MOLDED PRODUCT
THEREFROM**

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain a fluoro-resin composition capable of melt processing having rubber elasticity, excellent in tensile properties and heat resistance, and useful for tubes, etc., by kneading a specific terpolymer with fluororubber.

SOLUTION: This composition is obtained by kneading (A) 10-90wt.% of a

tetrafluoroethylene/hexafluoropropylene/vinylidene fluoride terpolymer ≈ 1.93 in specific gravity with (B) 90-10wt.% of an uncrosslinked fluororubber, optionally together with (C) an alkenylalkoxysilane and/or aminoalkylalkoxysilane at a temperature higher than the melting point of the component A to effect crosslinking of at least part of the component B under kneading at the above temperature. It is preferable that the component A is partially crosslinked with a polyol or polyamine in advance.

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XP-002268519

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127:347095 HCA

Entered STN: 16 Dec 1997

Melt-moldable fluoro-resin compositions with good resiliency, tensile properties and heat resistance, and manufacture thereof and molding therefrom

Nishimoto, Kazuo; Yamada, Hitoshi; Murakami, Atsushi

Nichias Corp., Japan

Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

Patent

Japanese

ICM C08L027-12

ICS C08J003-24; C08K005-54

37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39

N.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09268245	A2	19971014	JP 1996-103315	19960329
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JP 3069288	B2	20000724		
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AI JP 1996-103315		19960329		
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The title compns. comprise 10-90% tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer of sp. gr. .gtoreq.1.93 and 90-10%

(un)crosslinked fluororubber. A compn. comprising Viton A 100, THV500G 66.7, MgO 5, Ca(OH)2 3, bisphenol AF 2, and Curative 20 1 part and kneaded at 180.degree. for 2 min, 200.degree. for 3 min, and 220.degree. for 5 min was injection-moldable with Shore A hardness 83, limiting strength 94 kg/cm2, limiting elongation 256%, tensile strength 86 kg/cm2, elongation at break 304%, wt. loss initiation temp. 461.degree., 10% wt.-loss temp. 463.degree., and MEK extractable content 4%.

fluoropolymer fluororubber blend injection moldable; heat resistant fluoropolymer fluororubber blend

Fluoro rubber

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride; melt-moldable fluoro-resin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

Fluoro rubber

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(hexafluoropropene-tetrafluoroethylene-vinylidene fluoride; melt-moldable fluoro-resin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

Fluoro rubber

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(hexafluoropropene-vinylidene fluoride; melt-moldable fluoro-resin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

Heat-resistant materials

Vulcanization accelerators and agents

(melt-moldable fluoro-resin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

Polymer blends

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 Fluoro rubber
 Fluoropolymers, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 Silanes
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 Fluoro rubber
 Synthetic rubber, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (propene-tetrafluoroethylene-vinylidene fluoride; melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 25190-89-0, THV500G
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 9011-17-0, Hexafluoropropene-vinylidene fluoride copolymer 54675-89-7, Propene-tetrafluoroethylene-vinylidene fluoride copolymer
 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (rubber; melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)
 78-08-0, Vinyltriethoxysilane 919-30-2, .gamma.-
 Aminopropyltriethoxysilane 1067-53-4, Tris(2-methoxyethoxy)vinylsilane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (vulcanizer; melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)